

Amendments to Claims

Claims 1-19 (Canceled)

Claim 20 (Original): A method for measuring gene expression responses to perturbation comprising:

- (a) constructing at least 2 identical cellular arrays, each cellular array comprising a reporter gene fusion comprising:
 - 1) a reporter gene or reporter gene complex operably linked to
 - 2) a genomic fragment from an organism of which at least 15% of the genomic nucleotide sequence is known;

wherein at least one cellular array is a control array and at least one cellular array is an experimental array;

- (b) contacting the experimental array of (a) with a perturbing condition;
- (c) comparing the differences between the gene expression activity of the control and the experimental array wherein gene expression response to a perturbing condition is determined.

Claim 21 (Original): The method of Claim 20 wherein the cellular array is fixed in a manner selected from the group consisting of, fixed on a solid medium, and arrayed in liquid medium.

Claim 22 (Original): The method of Claim 20 wherein the perturbing condition is selected from the group consisting of radiation, humidity, alterations in temperature, alterations in carbon source, alterations in energy source, alterations in nitrogen source, alterations in phosphorus source, alterations in sulfur source, alterations in trace element sources, a change in pH, the presence other organisms, the presence of chemicals, the presence of toxins, and abnormal levels of normal metabolites.